Transparency and Stock Price Volatility: European Evidence

Elisabete F. Simões Vieira
Department of Accountability and Management – ISCA-UA, Unit Research GOVCOPP
University of Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro - Portugal
Fax: + 351 234 380 111
Phone: + 351 234 380 110
E-mail: elisabete.vieira@ua.pt

Joaquim Carlos C. Pinho
Department of Economy and Management - DEGEI, Unit Research GOVCOPP
University of Aveiro, Campus Universitário de Santiago, 3810-193 Aveiro - Portugal
Fax: + 351 234 370 215
Phone: + 351 234 370 361
E-mail: cpinho@ua.pt

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Abstract

This paper studies the key determinants of the information transparency and its consequences for the market, namely in what concerns the stock price volatility, analysing the disclosure practices of two European countries. A transparency and a volatility model are applied. Based on annual reports information, we could not find any significant relationship between transparency and volatility. However, considering the quarterly reports, we find a negative relation between these variables for the second quarter, suggesting that the higher the transparency, the lower the stock price volatility. This research contributes to the recent literature on the information transparency and stock price volatility, analysing two small European countries that are clearly in need of research.

Keywords: *disclosure, transparency, stock price volatility, information asymmetry, accounting standards.*

1. Introduction

In a society depending on real time information, corporate disclosure is crucial for the capital market efficiency. The more disclosures a company makes, the more transparent becomes the information to investors and more credible the firms will be for the market, resulting in a stock price increase.

In this context, we decide to analyse the disclosure situation of Portuguese listed firms. The study finds that transparency is influenced by some firm-specific variables, suggesting that firms which present higher levels of transparency tend to be the ones of larger size and higher profitability. Based on annual reports information, our evidence does not support the hypothesis of a relationship between transparency and volatility. However, considering the quarterly reports, we find a negative and significant relation between these variables for the second quarter, suggesting that the higher the transparency, the lower the stock price volatility.

The paper proceeds as follows. The next section summarizes literature. Section three describes the methodology and the data. Section four reports the empirical results and section five concludes the paper.

2. Previous Literature

Transparency generates benefits not only for the companies, but also for the global economy. Foreign direct investment increases with the corporate transparency (Razin and Sadka, 2007, among others).

Transparency is also a means of reducing the cost of capital and increasing the market liquidity (Healy and Palepu, 2001). Several authors found a negative relationship between the cost of capital and the level of disclosure (Clarkson *et al.*, 1996; Armitage and Marston, 2008) and a positive relation between market liquidity and the level of disclosure (Diamond and Verrecchia, 1991). Botosan and Plumlee (2002) found evidence of lower equity and debt costs in firms with higher levels of disclosure.

There are evidence of a negative relationship between the level of information asymmetry and the market efficiency (Diamond and Verrecchia, 1991; Verrecchia, 2001; Zhang, 2001).

Furthermore, some studies found a negative relationship between firm disclosure and price volatility, such as Lee and Chung (1998), Bushee and Noe (2000) and Baumann and Nier (2004). Alves and Santos (2008) find evidence that the first and third quarters information is significantly related with price volatility and trading volume, suggesting informativeness of financial reporting.

Ding *et al.* (2008) analyse the transparency of 63 firms of Baltic States of Estonia, Latvia and Lithuania, and compared them with 58 firms from Nordic countries (Denmark, Finland and Sweden), using two proxies of financial transparency. The main conclusion achieved is that Baltic countries have a lower level of financial transparency than the Nordic ones. The authors found a negative relationship between transparency and volatility for both measures in the Nordic countries, and for one of the measures in the Baltic sample. Thus, the authors conclude that Baltic investors are only interested in financial information, whereas in Nordic countries, investors give also importance of information towards governance and ownership.

Holthausen and Verrecchia (1988) concludes that the change in prices are associated with the variance of the underlying cash flows, the quality of the first information released, and the inter-temporal and cross-sectional correlation in information noise.

Previous studies find a negative relationship between disclosure and ownership concentration (Arcay and Vázquez, 2005; Laidroo, 2009, among others), concluding that the demand for ownership structure generates the need of quality accounting information.

3. Methodology and Data

In order to analyse the phenomenon of information transparency, we start to choose the proxies to measure transparency. After, we consider a transparency and a volatility model.

Disclosure indices

The relation between transparency indices and disclosure is documented by Singhvi and Desai (1971) and Lang and Lundholm (1993).

We decide to consider two indices extensively used in prior studies to measure transparency: Center for International Financial Analysis & Research (CIFAR) and the Standard & Poor's (2002) Transparency & Disclosure index (S&P). The CIFAR measure is related with specific types of accounting policies, including items from the income and cash flow statements, as well as balance sheet. The S&P includes items associated with voluntary types of disclosure, such as information about the ownership structure and governance[1]. The total points[2] obtained by a specific firm are computed, for the two indices, by the following formulas:

$$SCOREc_{i,j} = \sum_{i=1}^{78} CIFAR_j \quad [1]$$

$$SCOREsep_{i,j} = \sum_{i=1}^{96} S\&P_j \quad [2]$$

The sums of $SCOREc_{i,j}$, measuring CIFAR, and $SCOREsep_{i,j}$, measuring S&P, go through the total number of points awarded to the firm *j* for all the questions *i*, with *i* = 1...78 for CIFAR and i = 1...96 for S&P index.

Transparency Model

According prior literature, financial disclosure is related to several firm-specific variables, such as the size of the firm, profitability, their auditors rating, equity offer, leverage and the number of analysts following the company. Consequently, we estimate the following ordinary least square (OLS) model:

$$Transparency = \beta_0 + \beta_1 Portugal + \beta_2 Size + \beta_3 Leverage + \beta_4 Profitability + \beta_5 Auditor + \beta_6 Equity\ Offer + \beta_7 Ownership + \mu_i \quad [3]$$

where:

[1] For space management reasons, the list of discretionary items considered in the CIFAR and S&P indices is not reported, but available from authors upon request.

[2] The measures are dichotomous: we attribute the value of 1 if the information is disclosed in the firm's Annual Reports, the value of 0 if the information is not provided, and we exclude the item if the disclosure of information is irrelevant and is not provided.

Transparency	=	disclosure score based on one of two indices;
Portugal	=	dummy variable that takes the value one if the company is Portuguese (PT) and zero otherwise;
Size	=	logarithm of total assets;
Leverage	=	ratio of total debt over total assets;
Profitability	=	return on equity (ROE) of the firm, computed as the income before extraordinary items divided by book value of equity, relative to the ROE of the industry;
Auditor	=	dummy variable that take the value one if the company is audited by a Big 4 firm and zero otherwise;
Equity Offer	=	dummy variable that take the value one if the company arranged an equity offer during 2008, and zero otherwise;
Ownership	=	voting rights of the three biggest shareholders of the company;
μ_i	=	Error term.

We expect a positive relationship between firm size and the release of information, like the results of Watts and Zimmerman (1978) and Hope (2003) and between the disclosure level and the firms profitability, such as Lang and Lundholm (1993) and Armitage and Marston (2008).

The results concerning the relationship between information disclosure and the firm leverage are not consensual. Thus, the signal of the leverage variable is ambiguous.

The audits indicator is a measure of the reliability of financial accounting disclosures (Bushman *et al.*, 2004). Consequently, we expect that the better the quality of audits, the higher the transparency of the firm. Following previous studies, we use the "Big 4" proxy to measure the audit quality.

The literature suggests that firms with equity offers have more incentive to disclose information than the firms without them (Lang and Lundholm, 1997).

We include the ownership variable because we expect it might be relevant to explain transparency.

Volatility Model

In what concerns the volatility, we examine whether transparency and stock price volatility are related with each other. The volatility model is formulated as follows:

$$Volatility = \beta_0 + \beta_1 Transparency + \beta_2 Size + \beta_3 Leverage + \beta_4 Profitability + \beta_5 MB + \beta_6 DYield + IndFeffects + \mu_i \quad [4]$$

where:

Volatility	=	standard deviation of share prices calculated from end-of-week share prices;
MB	=	end-of-the-year capitalization divided by book value of total common equity;
DYield	=	dividend yield , computed as dividend per share divided by year-end stock price;
IndFeffects	=	fixed effects for eight industry sectors;
μ_i	=	Error term.

Stock price volatility is influenced by the market-to-book ratio (MB), used as a proxy for growth predictions, which is associated with higher future volatility (Fama and French, 1992; La Porta *et al.,* 1997; Berkman *et al.,* 2002). The expected signal for this coefficient is positive.

We expected a negative sign the Dividend Yield variable, such as the results of Allen and Rachim (1996).

The Sample

In order to analyse the transparency of the Portuguese market, we use a sample of non-financial listed firms on the Euronext Lisbon (EL). We exclude financial firms because those companies should obey to strict legal requirements regarding their finance. The data was collected on the 2008 annual reports, from the firm's websites[3]. The Portuguese final sample consists of 45 firms (of the 56 listed on EL).

The Portuguese sample is matched with a Belgium sample, considering the matching method. After removing the firms simultaneously listed on other stock Exchanges, the sample was grouped according the *Industry* Classification Benchmark (ICB) industry. Finally, it is obtained the Belgian matched sample, according the size of the companies. Four of the Belgian firms were used twice as a matching pair for some of the Portuguese

[3] When some kind of information was not found, we obtain the data from the website of the Portuguese committee of the securities market (CMVM).

firms because of the lack of Belgian companies, namely in what concerns the industry and size criteria.

4. Empirical results

Table 1 provides the descriptive statistics for the disclosure indices for the Portuguese and the Belgium samples.

For Portugal, the CIFAR index mean is 56.2, whereas for Belgium it presents a value of 54.5. In what concerns the S&P index, the higher mean is for Belgium, with a score of 58, whereas the Portuguese mean score is of 57.5. In what concerns the maximum values, we can see that, for the CIFAR index, the most transparent firm are from Portugal, but concerning S&P index the better score comes from a Belgium company. Consequently, we conclude that Portuguese firms are more focuses on the spread of their accounting policies and Belgium firms are more concerned with the policies of ownership and governance.

Table 2 presents the Pearson correlation coefficients between CIFAR and S&P indices for the Portuguese and Belgium markets. For both countries, the correlation between the two indices is of about 43%, significant at 1% level. The results of relatively high correlation (approximately 49%) between the transparency indices, and statically significant for Portugal, is a sign that transparency is explained by these factors. For the Belgium stock market, the result is lower (38% approximately), what could be a concern.

Table 3 presents the descriptive statistics of the independent variables. Portuguese and Belgium firms' size are quite similar, being the size mean of 8.61 and 8.49, respectively. However, Portuguese firms have more leverage than the Belgian ones.

In what concerns the profitability, and considering the two markets together, the profitability is negative, with a significant number of companies presenting a negative value for the earnings before extraordinary items. Indeed, 2008 was a year characterised by a financial and economy crisis. Considering the two samples separately, Portuguese firms seem to be more profitable than the Belgium ones.

The Belgian sample has a higher percentage of firms audited by one of the BIG 4 (77.78%) than the Portuguese sample (73.33%). Furthermore, equity offer was an absent and rare event, respective by the Portuguese and the Belgium sample (2%).

Finally, both Portuguese and Belgian firms present a high level of ownership concentration with a Belgian mean of 60.3% and a Portuguese mean of 64%.

Comparing these results with the ones of Ding *et al.* (2008), it is observed that, globally, both the Baltic and the Nordic firms' present higher size, have lower leverage, higher profitability, higher percentage of auditors from BIG 4, and similar number of equity offers. The exception is the fact that Nordic firms have a lower level of ownership concentration, around 47.68%.

Table 4 shows the correlation coefficients between the transparency indices, the Portuguese coefficient and the control variables. For variables that are significantly correlated, the coefficients are not very high (always below 50%), so it does not appear to be sufficiently large to cause concern about multicollinearity problems.

Table 5 reports the results of the OLS regression models, analysing the relation between disclosure levels and the firm-specific variables, in order to study the information transparency. We correct for heteroscedasticity, applying the White (1980) method.

The coefficients that explain transparency, considering both the CIFAR and the S&P indices are the firm SIZE, PROFITABILITY and EQUITY OFFER, all of them with the expected signal (positive), except the EQUITY OFFER, in the S&P case, such as like Ding *et al.* (2008). Regarding the SIZE of the firm, bigger firms have better scores of transparency. About the PROFITABILITY, although it is not economically significant, the coefficient is statistically significant at the 1% level.

Globally, these results suggest that firms that present higher level of transparency tend to be ones of larger size, higher profitability and with equity offers events, which is consistent with the results of Singhvi and Desai (1971), Lopes and Rodrigues (2007), Branco and Rodrigues (2008), Ding *et al.* (2008) and Cho *et al.* (2010).

The PT dummy is positive for CIFAR index and negative for S&P index, suggesting that Portuguese firms are more transparent than the Belgian ones in the accounting policies (CIFAR) and that the Belgian firms have a higher level of transparency than the Portuguese ones in what concerns the ownership and the governance features (S&P). Ding *et al.* (2008) find evidence that Baltic firms are less transparent then the Nordic ones, concerning the subjects of ownership and governance (S&P index).

In order to analyse the relationship between stock price volatility and the disclosure (TRANSPARENCY), we run model [4]. Table 6 shows the results for the Portuguese (Panel A) and the Belgian (Panel B) samples. The models consider the industry fixed effects that control the volatility changes due to the type of industry.

For the Portuguese sample, the only variable that contributes to explain the stock price volatility is the SIZE, in a positive way, being the results consistent with the ones of Fama and French (1992), Allen and Rachim (1996), Baumann and Nier (2004) and Ding *et al.* (2008), for the Nordic sample. The non significant coefficient leads to the conclusion that in Portugal the stock prices volatility is not influenced by the transparency of the company, i.e., the level of disclosure, in the annual reports, observed by the investors.

In what concerns the Belgium sample, we can see that none of the coefficient presents a statistically significant value, thus, individually, none of these variables can explain the stock price volatility.

Overall, the results do not give support for the hypothesis that transparency scores are negative associated with the stock prices volatility, contrary to the results of Ding *et al.* (2008), but only for the S&P index.

For robustness reasons, we increase the frequency of disclosure, using information of quarterly reports and we find evidence of a negative relation between transparency and volatility for the second quarter, suggesting that the higher the transparency, the lower the stock price volatility[4].

5. Conclusion

This study provides empirical evidence on the determinants of information disclosure and the effects of disclosure on stock price volatility for Portuguese and Belgian stock markets.

The transparency was measured by two indices: the CIFAR and the S&P. The results suggest that Portuguese firms are more concern about disclosure from the regulation of accounting and Belgian firms are more transparent in terms of ownership structure.

[4] For space reasons, the results are not reported, but available from authors upon request.

We find a significant relationship between disclosure and firm SIZE, PROFITABILITY and EQUITY OFFER, which is in agreement with the ones of Lang and Lundholm (1997), Healy *et al.* (1999), Botosan and Plumlee (2002) and Ding *et al.* (2008), among others.

When we analyse the relationship between transparency and the stock price volatility, we find no statistical significance between the two transparency measures and volatility. For the Portuguese sample, only the firm SIZE seems to be significantly related with the volatility, suggesting that stock prices volatility increases with the size of the companies.

Analysing the quarterly announcements, we find evidence of a negative relationship between transparency and the stock price volatility for the second quarter, suggesting that this release of information is quite important for investors. This result is in agreement with the ones of Lee and Chung (1998), Bushee and Noe (2000) and Baumann and Nier (2004).

In a further research, we would like to explore a more scrutinized index to measure the transparency, as well as consider the separation between mandatory and voluntary disclosure.

References

Allen, D. E., and Rachim, V. S., 1996. Dividend policy and stock price volatility: Australian evidence. *Applied Financial Economics*, 6, p. 175-188.

Alves, C. F., and Santos, F.T., 2008. Do first and third quarter unaudited financial reports matter? The Portuguese case. *European Accounting Review*, 17 (2), p. 361-392.

Arcay, B. M. R., and Vázquez, M. M. F., 2005. Corporate characteristics, governance rules and the extent of voluntary disclosure in Spain. *Advances in Accounting*, 21, p. 299-331.

Armitage, S., and Marston, C., 2008. Corporate disclosure, cost of capital and reputation: Evidence from finance directors. *The British Accounting Review*, 40, p. 314-336.

Bauman, U., and Nier, E., 2004. Disclosure, volatility, and transparency: an empirical investigation into the value of bank disclosure. *FRBNY Economic Policy Review*, p. 31-45.

Berkman, H., Bradbury, M., Hancock, P., and Innes, C., 2002. Derivative financial instrument use in Australia. *Accounting and Finance*, 42, p. 97-109.

Botosan, C. A., and Plumlee, M. A., 2002. A re-examination of disclosure level and the expected cost of equity capital. *Journal of Accounting Research*, 41, p. 21-40.

Branco, M. C., and Rodrigues, L. L., 2008. Factors influencing social responsibility and disclosure by Portuguese companies. *Journal of Business Ethics*, 83, p. 685–701.

Bushee, B. J., and Noe, C. F., 2000. Corporate disclosure practices, institutional investors, and stock return volatility. *Journal of Accounting Research*, 38 (3), Supplement, p. 171-208.

Bushman, R. M., Piotroski, J. D., and Smith, A. J., 2004. What determines corporate transparency?. *Journal of Accounting Research*, 42 (2), p. 207-252.

Clarkson, P., Guedes, J., and Thompson, R., 1996. On the diversification, observability, and measurement of estimation risk. *Journal of Financial and Quantitative Analysis*, 31, p. 69-84.

Cho, C. H., Roberts, R. W., and Patten, D. M., 2010. The language of US corporate environmental disclosure. *Accounting, Organizations and Society*, 30, p. 1-13.

Diamond, D., and Verrecchia, R., 1991. Disclosure, liquidity, and the cost of capital. *The Journal of Finance*, 46 (2), p. 1325–1360.

Ding, Y., Hope, O., and Schadewitz, H., 2008. Firm-level transparency in the former east bloc: empirical evidence from the Baltic region. Working paper [online]. Available at: <papers.ssrn.com/sol3/papers.cfm?abstract_id=1098193>, [Accessed 29 July 2010].

Fama, E. F., and French, K. R., 1992. The cross-section of expected stock returns. *The Journal of Finance*, 47 (2), p. 427-465.

Healy, P., and Palepu, K., 2001. Information asymmetry, corporate disclosure, and the capital markets: a review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31 (1-3), p. 405-440.

Healy, P., Hutton, A., and Palepu, K., 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research*, 16, p. 485–520.

Holthausen, R., and Verrecchia R., 1988. The effect of sequential information releases on the variance of price changes in an intertemporal multi-asset market. *Journal of Accounting Research*, 26 (1), p. 82-106.

Hope, O. K., 2003. Disclosure practices, enforcement of accounting standards and analysts' forecast accuracy: an international study. *Journal of Accounting Research*, 41 (2), p. 235-272.

La Porta, R., Lakonishok, J., Shleifer, A., and Vishny, R., 1997. Good news for value stocks: Further Evidence on Market Efficiency. *The Journal of Finance*, 52 (2), p. 659-874.

Laidroo, L., 2009. Association between ownership structure and public announcements' disclosure. *Corporate Governance: An International Review*, 17 (1), p. 13-34.

Lang, M., and Lundholm, R., 1993. Cross-Sectional Determinants of Analyst Ratings of Corporate Disclosure. *Journal of Accounting Research*, 31 (2), p. 246-271.

Lang, M., and Lundholm, R., 1997. Voluntary disclosure and equity offerings: reducing information asymmetry or hyping the stock?. *Contemporary Accounting Research*, 17 (4), p. 1-52.

Lee, S., and Chung, J., 1998. The effect of market transparency volatility and liquidity in the Korean stock market. *Review of Quantitative Finance and Accounting*, 11, p. 23-35.

Lopes, P. T., and Rodrigues, L. L., 2007. Accounting for financial instruments: an analysis of the determinants of disclosure in the Portuguese stock exchange. *The International Journal of Accounting*, 42, p. 25-56.

Razin, A., and Sadka, E., 2007. Corporate transparency, cream-skimming and FDI. *European Economic Review*, 51, p. 1263-1276.

Singhvi, S., and Desai, H. (1971). An empirical analysis of the quality of corporate financial disclosure. *The Accounting Review*, 46, p. 129-138.

Standard & Poor's Corporate Governance Scores (2002), Global transparency and disclosure survey. Available at: <http://www2.standardandpoors.com/> [Accessed 29 July 2010].

Verrecchia, R., 2001. Essays on disclosure. *Journal of Accounting and Economics*, 32 (1-3), p. 97-180.

Watts, R., and Zimmerman, 1978. Towards a positive theory of the determination of accounting standards. *The Accounting Review*, 53 (1), p. 112-134.

White, H., 1980. A heteroskedasticity - consistent covariance matrix estimator and a direct test for the heteroskedasticity. *Econometrica*, 48 (4), p. 817-838.

Zhang, G., 2001. Private information production, public disclosure, and the cost of capital: theory and implications. *Contemporary Accounting Research*, 18 (2), p. 363-384.

Table 1

Descriptive Statistics for disclosure indices

	PORTUGAL		BELGIUM	
	CIFAR	S&P	CIFAR	S&P
Mean	56.2	57.5	54.5	58
Median	57	59	56	58
Maximum	66	73	62	79
Minimum	39	28	41	40
Std. Dev.	5.7	9.5	5.5	8.2
Q1	54	54	52	54
Q3	59	65	58	61

t-test for equality of means

	t		*Sig (2-tailed)*
CIFAR (Portugal and Belgium)	1.988	*	0.053
S&P (Portugal and Belgium)	0.534		0.596

* Significantly different from zero at the 10% level

Table 2

Pearson Correlation Coefficients between CIFAR and S&P based indices

Countries	N	Correlation	
Both Portuguese and Belgium countries	90	0.4270	***
Portugal	45	0.4888	***
Belgium	45	0.3769	***

*** Significantly different from zero at the 1% level

Table 3

Descriptive Statistics for independent variables

Variable	BELGIUM AND PORTUGAL		PORTUGAL		BELGIUM	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
SIZE	8.5482	0.7425	8.6081	0.7321	8.4883	0.7562
LEVERAGE	0.6049	0.6735	0.7419	0.8995	0.4680	0.2647
PROFITABILITY	-27.5797	278.3622	1.1852	8.6101	-56.3446	393.6566
AUDITOR	0.7556	0.4322	0.7333	0.4472	0.7778	0.4204
EQUITY OFFER	0.0111	0.1054	0	0	0.0222	0.1491
OWNERSHIP	0.6216	0.2125	0.6401	0.2035	0.6030	0.2219

Table 4

Correlation Coefficients of variables for both countries together

	CIFAR	S&P	PT	SIZE	LEVERAGE	PROFITABILTY	AUDITOR	EQUITY OFFER
PT	0.1329	-0.0195						
SIZE	0.3166***	0.3811***	-0.0213					
LEVERAGE	0.0579	-0.0610	0.1619	0.1308				
PROFITABILITY	0.0757	0.0788	0.0971	-0.1413	-0.0209			
AUDITOR	0.2327**	0.2921***	-0.0380	0.4183***	-0.1376	-0.0543		
EQUITY OFFER	0.1255	-0.0215	-0.0992	0.1928*	0.0162	0.0127	0.0603	
OWNERSHIP	-0.0773	-0.0219	0.1287	-0.1079	0.0174	0.2401**	-0.0846	0.1643

*** Significantly different from zero at the 1% level
** Significantly different from zero at the 5% level
* Significantly different from zero at the 10% level

Table 5

Regression Results - Determinants of disclosure levels

Variables	CIFAR			S&P		
	Coef.		Sig.	Coef.		Sig.
Intercept	38.6337	***	0.0000	17.9955		0.1082
PT	1.6990		0.1447	-0.3343		0.1082
SIZE	1.9081	**	0.0229	4.4684	***	0.0014
LEVERAGE	0.1784		0.8181	-1.0982		0.5765
PROFITABILITY	0.0026	***	0.0000	0.0043	***	0.0000
AUDITOR	1.6792		0.2203	2.8179		0.2457
EQUITY OFFER	5.3569	***	0.0013	-9.0155	***	0.0003
OWNERSHIP	-2.8278		0.2204	0.7979		0.8416
Adjusted R^2	0.0894			0.1336		
N	90			90		

*** Significantly different from zero at the 1% level

** Significantly different from zero at the 5% level

* Significantly different from zero at the 10% level

Table 6

Regression results – Effect of disclosure on stock price volatility

Panel A: Stock price volatility regressed on disclosure metric and control variable for Portugal				
Variables	CIFAR		S&P	
	Coef.	Sig.	Coef.	Sig.
Intercept	-7.6632***	0.0044	-7.8163***	0.0016
TRANSPARENCY	-0.0040	0.8906	0.0009	0.9687
SIZE	1.0716***	0.0003	1.0568***	0.0010
LEVERAGE	0.1049	0.5550	0.1132	0.5566
PROFITABILITY	0.0587	0.5437	0.0125	0.4837
MB	0.0587	0.2965	0.0571	0.3024
DIVIDEND YIELD	-8.9523	0.2333	-9.0057	0.2310
Adjusted R^2	0.2726		0.2721	
N	45		45	
Panel B: Stock price volatility regressed on disclosure metric and control variable for Belgium				
Variables	CIFAR		S&P	
	Coef.	Sig.	Coef.	Sig.
Intercept	13.6295	0.7600	-9.1703	0.8142
TRANSPARENCY	-0.6641	0.1815	-0.4755	0.1691
SIZE	1.8587	0.6727	3.4848	0.4559
LEVERAGE	11.7928	0.3275	5.3431	0.6463
PROFITABILITY	0.0267	0.4152	0.0250	0.4406
MB	0.0319	0.4792	0.0289	0.5175
DIVIDEND YIELD	53.4223	0.1161	64.7040	0.5557
Adjusted R^2	0.7858		0.7865	
N	45		45	

Industry Fixed effects included in the models

*** Significantly different from zero at the 1% level